

## XL.

REPORTS ON THE ZOOLOGICAL COLLECTIONS MADE IN  
TORRES STRAITS BY PROFESSOR A. C. HADDON,  
1888-1889.

PYCNOGONIDA. BY GEORGE H. CARPENTER, B. Sc., Lond.,  
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(PLATE XXII.)

[COMMUNICATED BY PROFESSOR HADDON.]

[Read MAY 18, 1892.]

The collection of "sea-spiders" obtained by Professor Haddon is very small, numbering only seven individuals referable to three species. Of these, however, two appear to be new to science. Almost all our knowledge of exotic Pycnogonids is derived from the work of deep-sea dredging expeditions, and the present small contribution shows how much might be learned from a study of the shallow-water species in the tropics.

Professor Haddon's specimens were dredged from a depth of about fifteen fathoms, between the reefs off Murray Island.

In a recent Paper on the Pycnogonida of the Australian Seas, Haswell (4) enumerates eighteen species, of which only one (*Phoxichilidium Hoekii*, Miers) is from Torres Straits.

Of the species taken by Professor Haddon, two belong to the Pallenidæ and the other to the Eurycydidæ. In the nomenclature of the families I have followed Sars in his recent monograph of the North Atlantic species (6). I have also adopted his terms for the different parts of the body and its appendages. He calls the three pairs of appendages in front of the ambulatory legs "cheliferi," "palpi," and "false legs," and has introduced the names "cephalic segment" and "caudal segment" for the foremost and hindmost divisions of the body respectively, instead of "cephalothoracic segment" and "abdomen" hitherto in general use.

## Family.—PALLENIDÆ.

## Genus.—PARAPALLENE, gen. nov.

I suggest this genus to receive *Pallene australiensis*, Hoek, and a new species, both of which were collected by Professor Haddon. Sars (6) points out that the genus *Pallene* in its present restricted sense cannot be made to include Hoek's three "Challenger" species, each of which will probably become the type of a distinct genus. *Parapallene*, of which *Pallene australiensis*, Hoek, may be taken as the type, is distinguished by the following characters:—

Body slender and elongated; posterior trunk segments separate; proboscis short and blunt, swollen at anterior end; lateral processes well separated; false legs, with spines slightly or not denticulate; tarsi of legs without auxiliary claws.

The genus seems to come nearest to *Pallene*, from which the absence of auxiliary claws on the walking-legs and the independence of the two last trunk-segments from each other distinguish it. The body is much more slender than in *Pseudopallene* and *Cordylochele*. The simple nature of the spines on the false legs also distinguish it from other genera of the Pallenidæ.

***Parapallene australiensis* (Hoek).**

*Pallene australiensis*, Hoek, "Challenger," Zoology III., p. 76, pl. xi., ff. 1-7.

A single female was obtained by Professor Haddon.

Only three specimens were dredged by the "Challenger," and I am not aware that the species has been recorded since. The two stations where the "Challenger" specimens were found are off the south coast of Australia—one in Bass's Straits, the other off Twofold Bay, and the depths were 40 and 120 fathoms respectively. The discovery of the species between reefs in Torres Straits, at the northern extremity of the Australian continent, proves, therefore, that it has a considerable geographical and bathymetric range.

***Parapallene Haddonii*, sp. nov.**

Pl. XXII., figs. 1-6.

Body moderately slender; neck fused with cephalic segment; oculiferous tubercle with rounded apex; proboscis bluntly conical

at extremity, two-thirds the length of the cephalic segment; false legs with long claws and non-denticulate spines; ambulatory legs with the second coxal joint slightly longer than the two others taken together; femora and tibiae, in male, with strong conical projections at their extremities; legs with numerous long hairs and smooth spines.

Length of the proboscis, 1.5 mm.; of the cephalic segment and trunk, 5 mm.; of the abdomen, 1.5 mm.; of a false leg (male), 5 mm.; of a false leg (female), 4 mm.; of an ambulatory leg of the second pair, 18 mm.

One male and one female specimen were taken by Professor Haddon.

The body of this species is smooth, slender, and elongated, but not so extremely attenuated as that of *P. australiensis*. The cephalic segment is about twice as long as a trunk segment; the neck is short, rapidly widening into the broad frontal part (figs. 1-2). The oculiferous tubercle (fig. 3) is low, with an evenly rounded apex (in *P. australiensis* it is more prominent, with a pointed apex). The lateral processes are about as long as the width of the body. The caudal segment is as long as a trunk segment, erect and bifid at its extremity. The proboscis is swollen at its base, constricted in the middle, and again swollen at its extremity, which is bluntly conical (Pl. XXII., fig. 2.) The chelifori are well-developed, with scape reaching beyond the end of the proboscis, stout rounded palm, and short strong fingers; all joints armed with spines. The false legs (fig. 4) are very similar in the two sexes; the fourth joint about once and a half as long as the three first together, it is stout in both sexes and has a central protuberance in the male; the fifth joint two-thirds as long as the fourth; the sixth two-thirds as long as the fifth; the seventh three-fourths as long as the sixth; the eighth, ninth, and tenth, each slightly shorter than the sixth; the tenth joint bears a slender claw longer than the joint, with a few very slight serrations on its inner edge; the last four joints bear stout, smooth spines (fig. 5) (in *P. australiensis* the spines are denticulate on one edge). The ambulatory legs are long, but not so long relatively as in *P. australiensis*. The second coxal joint is rather more than twice as long as the first or third (in *P. australiensis* it is three times as long); it is armed with a few spines, and swollen distally

where the genital aperture is situated; the femur is once and two-thirds as long as the coxal joints taken together, somewhat swollen centrally in the female (containing eggs in the specimen examined), cylindrical in the male, in which sex (fig 2) it has a distal conical process bearing spines; there are also distal spines in the female, and a few long hairs in both sexes. The first tibial joint is somewhat shorter than the femur, it bears numerous hairs and spines, and, like the femur, has a distal conical process in the male; the second tibial joint is somewhat longer than the femur (shorter relatively than in *P. australiensis*), slender, cylindrical, and very hairy, bearing a few stout spines at its distal end (fig. 6). The tarsus is very short, armed with a few strong spines; the propodus (fig. 6) is about six times as long as the tarsus, moderately arched with three strong spines beneath its base, and numerous smaller ones beneath the rest of its extent; it bears a strong claw about three-fifths its length. (None of the spines on the legs are toothed like those of *P. australiensis*.) The four pairs of ambulatory legs are of about equal length.

The smooth spines on the false legs in this species are, I believe, peculiar among the Pallenidæ, and seem to indicate a transition to the Phoxichiliidæ.

#### Family.—EURYCYDIDÆ.

##### Genus.—ASCORHYNCHUS, Sars.

In a recent list of the genera of the Pycnogonida (7), Schimke-witsch states his opinion that this genus should be sunk in *Eurycyde*, Schiödte (*Zetes*, Kr.). Sars (6), however, points out that the absence of a distinct scape to the proboscis in *Ascorhynchus* and other structural characters require their separation.

##### ***Ascorhynchus tenuirostris*, sp. nov.**

(Pl. XXII. figs. 7-14).

Proboscis narrowly flask-shaped, two-thirds as long as the rest of the body, and reaching when folded beneath beyond the hinder edge of the second trunk segment. Oculiferous tubercle prominent, conical, and pointed. A dorsal spinous process at the junctions of the segments, and a prominent spine at the hinder end of the last trunk segment. A dorsal spine at the extremity of each lateral

process. False legs with rows of denticulate spines (in male); ambulatory legs with a conical process at the extremity of the femur.

Length of the proboscis, 4 mm.; of the cephalic segment and trunk, 5 mm.; of the abdomen, 1 mm.; of a false leg, 6 mm.; of an ambulatory leg of the second pair 12·5 mm. One adult and three immature males of this species were taken by Professor Haddon.

This species differs from all the known species of the genus in the narrow shape of the proboscis which, after swelling out from its base, narrows for the distal half of its extent. The cephalic segment is more than one and a half times as long as a trunk-segment. It has distinct processes at the front end for the insertion of the chelifori, giving a bifid appearance. There are processes for the palpi below and in front of the oculiferous tubercle, directed outwards and forwards. The oculiferous tubercle carries well-developed eyes; it has a few fine spines at its extremity. The lateral processes are rather longer than the breadth of the body; there is a prominent spine on the extremity of each. The trunk segments are raised into sharp spinous processes at their junctions whence a few minute spines arise; there is a very prominent spine as high as the oculiferous tubercle at the hinder end of the trunk; a few minute spines also spring from it. The caudal segment is as long as a trunk segment, very slender, slightly enlarged at its rounded hinder end. The chelifori (Pl. xxii. fig. 10) are much reduced, the hand being a mere remnant without movable finger. The palpi are of the form usual in the genus; the third joint is slightly longer and slenderer than the fifth, which has a very long hair situated about the middle of its length; the sixth, eighth, ninth, and tenth joints are of about equal length, the seventh a little longer; all these five are furnished with fine spines and strong bristles. The false legs have the fourth and fifth joints of equal length, as long as the first three together; the fourth joint is thickened at its proximal, the fifth at its distal end; the sixth joint is three-fifths as long as the fourth, thickened, and armed with spines the seventh joint is two-thirds as long as the sixth; the eighth, ninth and tenth, rather more than half as long as the seventh (Pl. xxii. fig. 12); the last four joints are armed with denticulate spines (Pl. xxii. fig. 13) those on the seventh and eighth joints in three irregular rows, those on the ninth and tenth in two rows, the spines in the two rows being in the same plane, and



pointing away from each other; there is a small claw at the end of the tenth joint. The second pair of ambulatory legs is rather the longest. The second coxal joint is once and a half as long as the first or third, the femur is once and two-thirds as long as the coxal joints together; it is thickened, and has a conical distal process; the first tibial joint is thickened distally and nearly as long as the femur; the second tibial joint is slightly arched, slender, and as long as the femur, it has a short, stout, distal spine; the tarsus is about a fourth the length of the propodus, and has a short stout distal spine; the propodus is slender (fig. 44) slightly arched, bearing a small claw, and furnished beneath, with small spines, and above with hairs. The joints of the legs are sparingly furnished with fine spines, those on and around the conical process of the femur being the strongest.

This is the eighth species described as an *Ascorhynchus*, the type being *A. abyssi*, Sars, from the depths of the Arctic Ocean. Hoek described three species from the "Challenger": *A. glaber* from between the Cape of Good Hope and Kerguelen, *A. minutus* from the southern coast of Australia, and *A. orthorhynchus* from near the Admiralty Islands. Lately, Ortmann (5) has described *A. cryptopygius*, *A. glabroides*, and *A. bicornis* from Japan. Hoek includes *Gnamptorhynchus ramipes*, Bohm, from Japan in this genus, and is inclined to think that *Barana Castelli*, Dohrn, from the Mediterranean should also belong to it. This last species agrees with *A. tenuirostris* in having conical processes on the femora, but its proboscis is much thicker than in our species, and the dorsal spines on the trunk-segments are between, not at, the junctions.

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#### EXPLANATION OF PLATE.

FIG. 1. *Parapallene Haddonii*, dorsal view of female,  $\times 6$ .

FIG. 2.       "       "       ventral view of cephalic segment of male,  $\times 6$ .

FIG. 3.       "       "       profile of oculiferous tubercle  $\times 6$ .

FIG. 4.       "       "       last joints of false leg of female (1 in. obj.).

FIG. 5.       "       "       spines of false leg ( $\frac{1}{8}$  in. obj.).

FIG. 6.       "       "       tarsus and propodus of ambulatory leg (1 in. obj.).

FIG. 7. *Ascorhynchus tenuirostris*, dorsal view of male,  $\times 8$ .

FIG. 8.       "       "       profile of male,  $\times 8$ .

FIG. 9.       "       "       ventral view of hinder part of cephalic segment of male, showing false leg,  $\times 8$ .

FIG. 10.       "       "       cheliferous (1 in. obj.).

FIG. 11.       "       "       palp, portion of fifth, and last five joints (1 in. obj.).

FIG. 12.       "       "       false leg of male, last four joints (1 in. obj.).

FIG. 13.       "       "       a denticulate spine ( $\frac{1}{2}$  in. obj.).

FIG. 14.       "       "       tarsus and propodus of ambulatory leg (1 in. obj.).

